Volume 1, Issue 1 January-March, 2010

TCPWQ Newsletter

Tippecanoe County Partnership for Water Quality

Points of Interest:

- Discover an exciting environmental community service project that can be completed by anyone and anywhere
- Learn what impervious means
- Review the basics of storm water
- See what awards the Partnership has been presented
- Find out about Combined Sewer Overflows
- Remember what is a watershed
- Know why coal-tar based sealants are banned

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Who is the TCPWQ?

The Tippecanoe County Partnership for Water Quality was formed in 2003 and comprised of representatives of seven local entities. Their mission is to address the issues of stormwater in the county. This may not sound exciting at first, but what they do affects everybody in Tippecanoe County. The TCPWQ signed a formal document to work together for the betterment of their communities to address the needs of a federal mandate about stormwater. This means the Federal Government has handed down instructions, according to the Clean Water Act, to prevent stormwater from becoming polluted before it reaches our nearest streams, lakes, ponds, and oceans. This affects YOU because YOU need clean water.

The seven entities that represent the TCPWQ include Battle Ground, Dayton, Ivy Tech, Lafayette, Purdue University, Tippecanoe County, and West Lafayette. Together they work together on the 6 main components of the Federal Mandate, also known as the National Pollutant Discharge Elimination System (NPDES) Phase II of the Clean Water Act. These 6 minimum control measures are:

1. Public Education and Outreach
2. Public Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention and Good Housekeeping

The entities work as a team to address each topic by using Best Management Practices. They are outlined on our website as the most efficient ways to prevent stormwater pollution. The TCPWQ was recognized for their efforts by the State of Indiana by receiving five awards in the past six years.

We hope you familiarize yourself with the TCPWQ and learn more about what we do in your community. For more information please visit www.tippecanoesw.org or contact your representative listed on page 4.

Don Emmert,
Water Quality Educator

An Overview of Impervious Surfaces

Impervious surfaces cause water pollution problems

- Materials like cement, asphalt, roofing, and compacted soil prevent percolation of stormwater runoff into the ground. The amount of impervious surface grows with increasing urbanization.
- Impervious surfaces do not allow water to pass into the ground; the water keeps moving on the surface until it can be absorbed into the ground or emptied into a body or water.
- Intense storms quickly generate large volumes of runoff, This results in water moving swiftly over the hard impervious surfaces.
- Rapid runoff and the sparse amount of vegetation reduces the transport of water into the atmosphere from surfaces including from soil and plants; therefore the incoming solar radiation is used for heating rather than evaporation.
- Impervious surfaces hold more heat than fields with vegetation. This can cause thermal pollution.

What is Stormwater and Why Should I be Concerned?

Storm water runoff running downhill on an impervious surface towards a storm drain curb inlet

Stormwater runoff is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces (paved streets, parking lots, and building rooftops) and does not soak into the ground. As the runoff flows over the land or impervious surfaces, stormwater can pick up fertilizers and herbicides from lawns, car-wash soap from driveways, grease and oil from roads, mud from construction, bacteria from broken septic systems, and many other spilled or dumped contaminants, before reaching creeks, streams or rivers **without** first being treated. The primary method to control storm water discharges is the use of best management practices (BMPs).

Remember the water you swim, fish, wade, ski, and canoe in is not pure water. You might be surprised to discover the source of some of our most common water pollutants. Could you be contributing to the contamination of the Wabash? Every drop of rain that falls in Tippecanoe County either ends up in a lake, pond or wetland, the groundwater, or the Wabash River. It's all part of the hydrologic cycle. This includes the rain that falls on your lawn, your roof, your driveway, your street, and your community.

"Every drop of rain that falls in Tippecanoe County either ends up in a lake, pond or wetland, the groundwater, or the Wabash River." - Don Emmert, Water Quality Educator

Recognition to the TCPWQ and Individual Members:

- 2002 Association of Indiana Counties presented the award Local Government Cooperation Award to Tippecanoe County, City of Lafayette, and the City of West Lafayette for the early cooperation of these entities working together on Phase II requirements.
- 2002 Indiana Association of Floodplain and Stormwater Management (INAFSM) Excellence in Stormwater Management Award to Steve Murray.
- 2005 INAFSM Phase II Project Team Project Award. Established in 1998, this award recognizes an outstanding stormwater project studied, designed, or constructed by a firm for a local unit of government or a private entity.
- 2007 Indiana Association of Soil and Water Conservation District's District Employee of the Year in Education to Don Emmert.
- 2008 IDEM Certificate of Recognition for the implementation of the MS4 Storm Water Quality Management Plan associated with successful co-permitting, program management, public education & outreach, and public participation & involvement.

Boaters paddling by a flowing combined sewer overflow

Combined Sewer Overflows (CSOs)

Combined sewer systems are sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe. Most of the time, combined sewer systems transport all of their wastewater to a wastewater treatment plant where it is treated and discharged to a water body. During periods of heavy rainfall or snowmelt, however, the wastewater volume in a combined sewer system can exceed the capacity of the sewer system or treatment plant. For this reason, combined sewer systems are designed to overflow occasionally and discharge excess wastewater directly to nearby streams, rivers, or water bodies.

These overflows, called combined sewer overflows (CSOs), contain not only storm water but also untreated human and industrial waste, toxic materials, and debris. They are a major water pollution concern for the approximately 772 cities in the U.S. that have combined sewer systems. CSOs may be thought of as a type of "urban wet weather" discharge. This means that, like sanitary sewer overflows (SSOs) and storm water discharges, they are discharges from a municipality's wastewater conveyance infrastructure that are caused by precipitation events such as rainfall or heavy snowmelt.

Water Quality Education: Storm Drain Marking Program for Tippecanoe County

It is a common misnomer that storm drains, whether in the form of curb inlets or catch basins, connect to sanitary sewer systems. Actually, most storm drains in Tippecanoe County and other communities take storm water runoff directly to nearby waterways without passing the runoff through a treatment facility.

Many items pollute storm water including: lawn clippings, leaves, pet waste, pesticides, fertilizers, paint, used motor oil, runoff from car washing on an impervious (hard, non-drainable) surface, cigarette butts, and household cleaners – all of which drain directly to the Wabash River and its tributaries in Tippecanoe County.

Even small amounts of antifreeze and household cleaners can harm fish and wildlife. Polluted storm water damages rivers, lakes, and streams; additionally threatening our groundwater drinking supply.

Storm drain marking is an activity that draws attention to one of the many types of non-point source pollution and what we can do to reduce and prevent this type of pollution. Not only does storm drain marking warn people not to dump their waste down the storm drain, but also the related programs can give residents options of how to dispose of their used oil, antifreeze, lawn and garden chemicals, pet waste, and any other litter that may be dumped into a drain.

Storm drain marking is an educational, hands-on tool to engage people of all ages in community involvement for watershed pollution prevention. Marking alerts others to the fate of runoff water and the pollution carried with it from lawns and streets. The markings are highly visible (either a white spray paint message of "No Dumping, Drains to River" or a curb-marker button with the county's symbol of a fish and water drop combine to form a heart) reminding people of the union between storm water and the rivers that it drains to. The markings raise awareness in addition to leading towards pollution prevention.

Anyone can participate in the county's effort to mark storm drains. The Tippecanoe County Partnership for Water Quality (TCPWQ) in partnership with the Tippecanoe County Soil and Water Conservation District (SWCD) can provide all supplies to anyone willing to volunteer and mark storm drains within the county . Groups including 4-H clubs, girl scouts, boy scouts, youth groups, families, homeowner associations, etc. or even just individuals can participate. No transportation can be provided by the TCPWQ or the SWCD.

To set-up your own storm drain marking event, please contact the TCPWQ Storm Drain Marking Program (765) 474-9992, ext 3

A stencil is spray painted near drains where markers cannot be placed. So far over 5,000 drains have been marked in Tippecanoe County through 2009.

"The markings raise awareness in addition to leading towards pollution prevention."
- Brad Abplanalp, Water Quality Education Assistant

What is a Watershed?

A watershed is an area of land that collects and drains water to a specific point. Similar to water poured into a bowl, a portion of the precipitation that falls on a watershed will move through the landscape collecting and concentrating in low areas, wetlands, creeks, and streams, until it exits through an outlet point.

It is important to know what possible pollutants are in the water flowing within Tippecanoe County. The TCPWQ looks at stormwater pollutants as a part of the NPDES program throughout the county. Other groups have looked at potential pollutants within smaller sections, or watersheds, within the County.

- The Lauramie Creek Watershed Management Plan was developed in 2005 and implementation of the plan is currently underway.
- Wabash River Enhancement Corporation
- Wabash River Heritage Corridor Commission
- Wildcat Creek Watershed Alliance

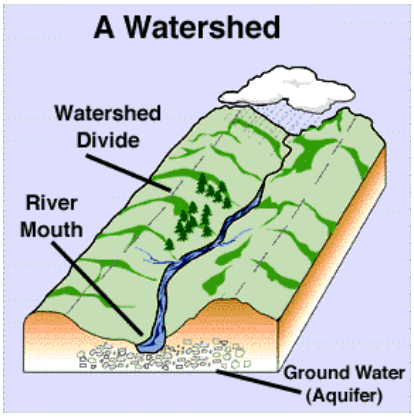

Diagram of a watershed

Other Entities to Contact:

Tippecanoe Soil and Water Conservation District
1812 Troxel Dr. Ste C3
Lafayette, IN 47909
(765) 474-9992, ext 3

Wildcat Creek Solid Waste Authority
2780 N. 9th St.
Lafayette, IN 47904
(765) 423-2858

We're on the Web!
www.tippecanoesw.org

Tippecanoe County Partnership for Water Quality:
c/o Tippecanoe County Surveyor's Office
20 North 3rd Street
Lafayette, IN 47901
Phone: (765) 423-9228

The Tippecanoe County Partnership for Water Quality seeks to partner with local, state, and federal government and other stakeholders to provide quality of life and protection of health, environment, and economy that citizens desire and deserve as they serve as stewards of natural resources, system infrastructure, and public funds while solving storm water and water quality issues.

The Partnership Consists of the Following Seven Entities:

Tippecanoe County:	(765) 423-9228
City of Lafayette:	(765) 807-1036
City of West Lafayette:	(765) 775-5130
Purdue University:	(765) 494-3417
Town of Battleground:	(765) 567-4020
Town of Dayton:	(765) 296-2533
Ivy Tech of Lafayette:	(765) 269-5128

Banned Coal-Tar Based Sealants

Do you have an asphalt driveway? If so, then this information applies to you.

What are coal-tar sealants?
Coal-tar is a byproduct of the baking of coal and is added to sealants. This product, a coal-tar sealant, may contain up to 20% pollutants in the form of PAHs (Aromatic Hydrocarbons). In comparison, an asphalt based sealant may contain up to 0.66% pollutants in the form of PAHs. That is up to 670 times less PAHs than coal tar sealants.

The presence of PAHs in rivers, streams, and lakes is a growing issue in many communities throughout the United States. Some communities, including those in Tippecanoe County, rely on education efforts to convince homeowners and contractors to discontinue the use of coal-tar based sealants. Others have adopted ordinances banning the use of these products within their boundaries.

What are PAHs (Aromatic Hydrocarbons)? PAHs are a group of more than 100 organic compounds that are produced when materials containing carbon and hydrogen are burned. Common sources of PAHs include: fireplaces and woodstoves; cigarette and tobacco smoke; automobile exhaust; waste incinerators; forest or brush fires; decaying organic matter; and coal-tar based sealants.

Why should we be concerned about PAHs?
Several PAHs are suspected cancer causing compounds for humans and have been shown to be toxic to aquatic life. While PAHs do not dissolve in water, they attach to soil and other particles and can be transported to rivers, streams, and lakes through storm water runoff.

What are the alternatives?
Asphalt based sealants are an alternative to coal-tar based sealants but efforts should be made prior to application to determine if the sealant will be compatible with the existing pavement. Other alternatives include: 1) Consider using concrete which does not require the use of these sealants 2) Consider using permeable asphalt or other porous materials; be certain to read the product labels or ask potential contractors to be certain that the product does not contain coal-tar.

Replacing your asphalt driveway?

If you are considering replacing your asphalt driveway, there are alternatives that still require some maintenance. These practices help to reduce the overall volume of storm water and pollutants that reach the storm drains and local streams and rivers . Please visit http://www.tippecanoesw.org for more info.